In the claims:

Claims 8, 15 and 27 are cancelled.

Claims 7, 9, 14, 16, 26 and 28 of claims 1-7, 9-14, 16-26 and 29-31 are amended.

New claims 32-41 are added.

1. (Original) A data storage apparatus comprising:

a read head for reading magnetic data from a recorded portion of a recording layer of a perpendicularly recorded magnetic medium;

a stabilizer for magnetically stabilizing a portion of an underlayer of the magnetic medium directly below the recorded portion simultaneously while the read head is reading said magnetic data from the recorded portion; and

the read head and the stabilizer being separate structures.

2. (Original) A data storage apparatus as claimed in claim 1 wherein the stabilizer includes:

first and second elongated probes and a bridge with the bridge interconnecting the first and second probes; and

the read head being located between the first and second probes.

3. (Original) A data storage apparatus as claimed in claim 1 further comprising:

the read head having a head surface which defines a head surface plane;

the first probe being closer to the read head than the second probe; and

the first probe being recessed from the head surface plane and the second probe being coextensive with the head surface plane.

4. (Original) A data storage apparatus as claimed in claim 3 wherein the first probe increases in magnetic material volume as it extends toward the head surface.

5. (Original) A data storage apparatus as claimed in claim 1 further comprising:

biasing means for applying a constant bias field to the stabilizer.

6. (Original) A data storage apparatus as claimed in claim 5 wherein the constant bias field is greater than two (2) times the magnetic coercivity of the soft underlayer.

7. (Currently Amended) A data storage apparatus as claimed in claim [[1]] 2 further comprising:

a write head which has first and second pole pieces; and

one of the first and second probes and one of the first and second pole pieces being a common component.

8. (Cancelled)

9. (Currently Amended) A data storage apparatus as claimed in claim [[8]] 7 further comprising:

the read head having a head surface which defines a head surface plane;

the first probe being closer to the read head than the second probe; and

the first probe being recessed from the head surface plane and the second probe being coextensive with the head surface plane.

10. (Original) A data storage apparatus as claimed in claim 9 wherein the first probe increases in magnetic material volume as it extends toward the head surface.

11. (Original) A data storage apparatus as claimed in claim 10 further comprising:

biasing means for applying a constant bias field to the stabilizer.

12. (Original) A data storage apparatus as claimed in claim 11 wherein the constant bias field is greater than two (2) times the magnetic coercivity of the soft underlayer.

13. (Original) A data storage apparatus as claimed in claim 12 wherein the read head comprises;

nonmagnetic first and second read gap layers;

a sensor located between the first and second read gap layers;

ferromagnetic first and second shield layers; and

the first and second read gap layers being located between the first and second shield layers.

14. (Currently Amended) A data storage apparatus as claimed in claim [[1]] 2 further comprising:

a write head; and

in addition to the read head being located between the first and second probes, the write head also being located between the first and second probes.

15. (Cancelled)

16. (Currently Amended) A data storage apparatus as claimed in claim [[15]] 14 further comprising:

the read head having a head surface which defines a head surface plane;

the first probe being closer to the read head than the second probe; and

the first probe being recessed from the head surface plane and the second probe being coextensive with the head surface plane.

17. (Original) A data storage apparatus as claimed in claim 16 wherein the first probe increases in magnetic material volume as it extends toward the head surface.

18. (Original) A data storage apparatus as claimed in claim 17 further comprising:

biasing means for applying a constant bias field to the stabilizer.

19. (Original) A data storage apparatus as claimed in claim 18 wherein the constant bias field is greater than two (2) times the magnetic coercivity of the soft underlayer.

20. (Original) A data storage apparatus as claimed in claim 19 wherein the read head comprises;

nonmagnetic first and second read gap layers;

a sensor located between the first and second read gap layers;

ferromagnetic first and second shield layers; and

the first and second read gap layers being located between the first and second shield layers.

21. (Original) A method of making a data storage apparatus comprising the steps of:

forming a read head for reading magnetic data from a recorded portion of a recording layer of a perpendicularly recorded magnetic medium;

forming a stabilizer for magnetically stabilizing a portion of an underlayer of the magnetic medium directly below the recorded portion simultaneously while the read head is reading said magnetic data from the recorded portion; and

forming the read head and the stabilizer as separate structures.

22. (Original) A method as claimed in claim 21 wherein the method further comprises the steps of:

providing the stabilizer with first and second elongated probes and a bridge wherein the bridge interconnects the first and second probes; and

locating the read head between the first and second probes.

23. (Original) A method as claimed in claim 22 wherein the method further comprises the steps of:

providing the read head having a head surface which defines a head surface plane;

locating the first probe closer to the read head than the second probe; and

recessing the first probe from the head surface plane and making the second probe coextensive with the head surface plane.

24. (Original) A method as claimed in claim 23 wherein the method further comprises the step of:

applying a constant bias field to the stabilizer.

25. (Original) A method as claimed in claim 24 wherein the constant bias field is formed greater than two (2) times the magnetic coercivity of the soft underlayer.

26. (Currently Amended) A method as claimed in claim [[21]] 22 wherein the method further comprises the steps of:

providing a write head; and

in addition to locating the read head between the first and second probes, also locating the write head between the first and second probes.

27. (Cancelled)

28. (Currently Amended) A method as claimed in claim [[27]] 26 wherein the method further comprises the steps of:

providing the read head having a head surface which defines a head surface plane;

locating the first probe closer to the read head than the second probe; and

recessing the first probe from the head surface plane and making the second probe coextensive with the head surface plane.

29. (Original) A method as claimed in claim 28 wherein the method further comprises the step of:

applying a constant bias field to the stabilizer.

30. (Original) A method as claimed in claim 29 wherein the constant bias field is formed greater than two (2) times the magnetic coercivity of the soft underlayer.

31. (Original) A method of suppressing noise while reading from a perpendicular recorded medium comprising the steps of:

employing a read head for reading a recorded portion of a top recording layer; and

simultaneously with said reading, employing a stabilizer, which is separate from the read head, for introducing a field into a portion of a bottom underlayer directly below the recorded portion with sufficient strength to stabilize said portion of the bottom underlayer in a single domain state.

32. (New) A data storage apparatus comprising:

a read head for reading magnetic data from a recorded portion of a recording layer of a perpendicularly recorded magnetic medium;

the read head including a read sensor and first and second shield layers with the read sensor being located between the first and second shield layers;

a stabilizer for magnetically stabilizing a portion of an underlayer of the magnetic medium directly below the recorded portion simultaneously while the read head is reading said magnetic data from the recorded portion; and

the read sensor and the stabilizer being separate structures and magnetically decoupled with respect to one another.

33. (New) A data storage apparatus as claimed in claim 32 wherein the stabilizer includes:

first and second elongated spaced apart probes and a bridge with the bridge interconnecting the first and second probes;

means for energizing the bridge so that magnetic flux flows between the space between the probes; and

the read head being located between the first and second probes.

34. (New) A data storage apparatus as claimed in claim 32 further comprising:

the read head having a head surface which defines a head surface plane; and

the first probe being recessed from the head surface plane and the second probe being coextensive with the head surface plane.

35. (New) A data storage apparatus as claimed in claim 34 wherein the first probe increases in magnetic material volume as it extends toward the head surface.

36. (New) A data storage apparatus as claimed in claim 32 further comprising:

biasing means for applying a constant bias field to the stabilizer.

37. (New) A data storage apparatus as claimed in claim 36 wherein the constant bias field is greater than two (2) times the magnetic coercivity of the soft underlayer.

38. (New) A data storage apparatus as claimed in claim 33 further comprising:

a write head which has first and second pole pieces; and

one of the first and second probes and one of the first and second pole pieces being a common component.

39. (New) A data storage apparatus as claimed in claim 33 further comprising:

a write head; and

in addition to the read head being located between the first and second probes, the write head also being located between the first and second probes.

40. (New) A data storage apparatus as claimed in claim 39 further comprising:

the read head having a head surface which defines a head surface plane; and

the first probe being recessed from the head surface plane and the second probe being coextensive with the head surface plane.

41. (New) A data storage apparatus as claimed in claim 40 wherein the first probe increases in magnetic material volume as it extends toward the head surface.